

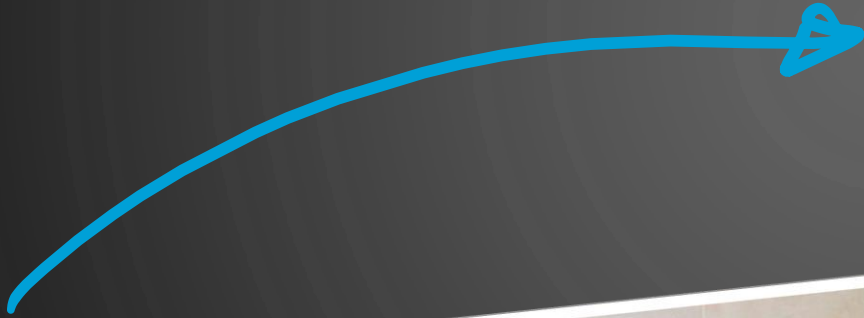


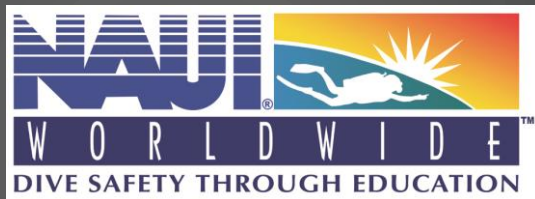
RETURNING TO DIVING POST-COVID

COURTNEY GIBSON, NAUI 51941

HART HOUSE UNDERWATER CLUB • UNIVERSITY OF TORONTO

APRIL 27, 2021





Returning to Diving: Post-COVID

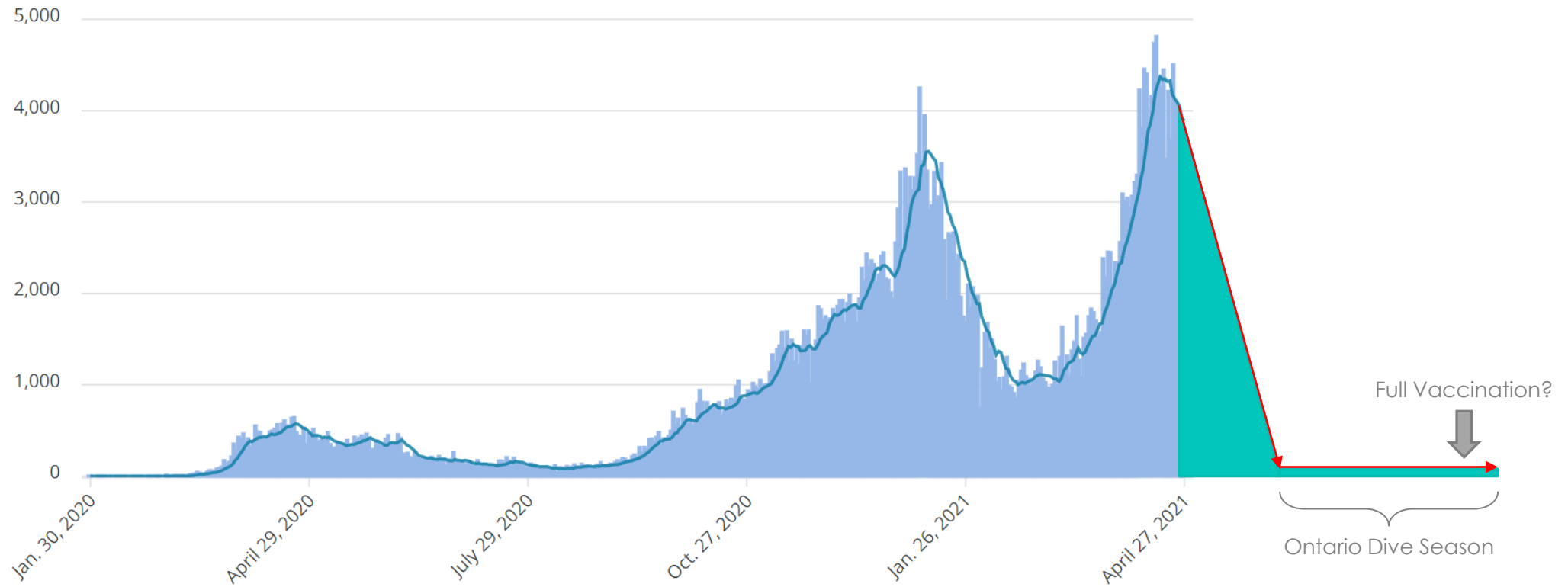
- Why does this matter?
- Getting you back in the water
- Getting your equipment back in the water
- Adjusting your dive planning
- Adjusting your scuba and rescue skills



Disclaimers

- This presentation does not contain medical or legal advice, only information and considerations that you are **strongly encouraged to independently verify and validate for yourself.**
- Information about COVID-19 is rapidly-evolving: the information contained in this presentation **may be out-of-date** before your actual return to dive.
- This presentation attempts to bring together recommendations and best-practice information from across the scuba diving, first-aid, public health and hyperbaric research communities: this presentation is **not endorsed by any third-party agencies**, and any errors or omissions are my own.

Returning to Dive: When?



Why does this matter?



You don't want
to get sick... or injured.



You don't want
others to get sick.



You've been out of
the water for 1-2 years.

How does COVID affect divers?

NAUI Medical Waiver



Diver Medical | Participant Questionnaire

Recreational scuba diving and freediving requires good physical and mental health. There are a few medical conditions which can be hazardous while diving, listed below. Those who have, or are predisposed to, any of these conditions, should be evaluated by a physician. This Diver Medical Participant Questionnaire provides a basis to determine if you should seek out that evaluation. If you have any concerns about your diving fitness not represented on this form, consult with your physician before diving. If you are feeling ill, avoid diving. If you think you may have a contagious disease, protect yourself and others by not participating in dive training and/or dive activities. References to "diving" on this form encompass both recreational scuba diving and freediving. This form is principally designed as an initial medical screen for new divers, but is also appropriate for divers taking continuing education. For your safety, and that of others who may dive with you, answer all questions honestly.

Directions

Complete this questionnaire as a prerequisite to a recreational scuba diving or freediving course. Note to women:

If you are pregnant, or attempting to become pregnant, *do not dive*.

1. I have had problems with my lungs/breathing, heart, blood, or have been diagnosed with COVID-19.	Yes <input type="checkbox"/> Go to Box A	No <input type="checkbox"/>
2. I am over 45 years of age.	Yes <input type="checkbox"/> Go to Box B	No <input type="checkbox"/>
3. I struggle to perform moderate exercise (for example, walk 1.6 kilometer/one mile in 14 minutes or swim 200 meters/yards without resting), OR I have been unable to participate in a normal physical activity due to fitness or health reasons within the past 12 months.	Yes <input type="checkbox"/> *	No <input type="checkbox"/>
4. I have had problems with my eyes, ears, nose, or throat (sinusitis).	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5. I have had problems with my teeth.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6. I have had problems with my skin (eczema, psoriasis, or other skin conditions).	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7. I have had problems with my back or neck.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
8. I have had problems with my joints.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
9. I have had problems with my blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10. I have had problems with my cholesterol.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
11. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
12. I have had problems with my asthma.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
13. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
14. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
15. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
16. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
17. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
18. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
19. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
20. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
21. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
22. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
23. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
24. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
25. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
26. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
27. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
28. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
29. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
30. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
31. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
32. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
33. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
34. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
35. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
36. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
37. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
38. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
39. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
40. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
41. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
42. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
43. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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46. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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48. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
49. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
50. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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52. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
53. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
54. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
55. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
56. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
57. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
58. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
59. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
60. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
61. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
62. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
63. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
64. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
65. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
66. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
67. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
68. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
69. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
70. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
71. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
72. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
73. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
74. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
75. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
76. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
77. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
78. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
79. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
80. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
81. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
82. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
83. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
84. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
85. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
86. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
87. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
88. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
89. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
90. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
91. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
92. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
93. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
94. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
95. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
96. I have had problems with my thyroid.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
97. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
98. I have had problems with my heart disease.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
99. I have had problems with my high blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
100. I have had problems with my low blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>



NAUI Medical Waiver

- **If a student has been hospitalized** for any reason in the previous 12-months, NAUI recommends they obtain a medical release prior to diving signed by a licensed physician.
- **If a student has had COVID-19**, many medical professionals would consider it an “*other chest disease or chest surgery*” as listed on the medical questionnaire and would require a medical release from a licensed physician prior to diving.

Source: <https://blog.naui.org/naui-training-bulletin/>

Diver Medical | Participant Questionnaire

Recreational scuba diving and freediving requires good physical and mental health. There are a few medical conditions which can be hazardous while diving, listed below. Those who have, or are predisposed to, any of these conditions, should be evaluated by a physician. This Diver Medical Participant Questionnaire provides a basis to determine if you should seek out that evaluation. If you have any concerns about your diving fitness not represented on this form, consult with your physician before diving. If you are feeling ill, avoid diving. If you think you may have a contagious disease, protect yourself and others by not participating in dive training and/or dive activities. References to "diving" on this form encompass both recreational scuba diving and freediving. This form is principally designed as an initial medical screen for new divers, but is also appropriate for divers taking continuing education. For your safety, and that of others who may dive with you, answer all questions honestly.

Directions
Complete this questionnaire as a prerequisite to a recreational scuba diving or freediving course. Note to women: If you are pregnant, or attempting to become pregnant, *do not dive*.

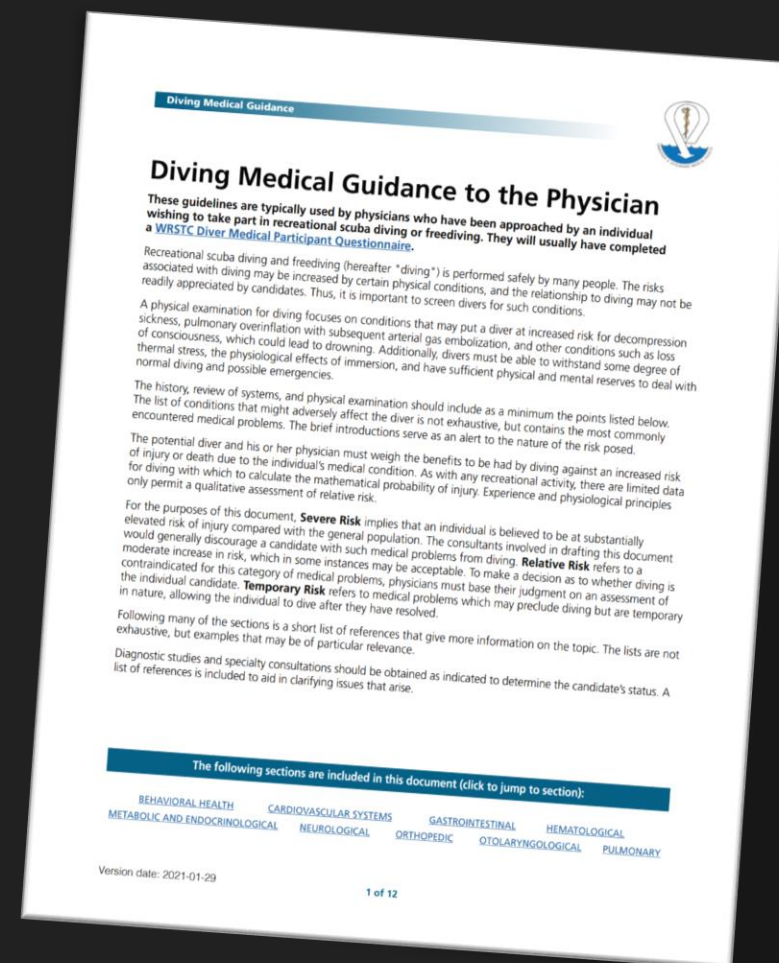
1. I have had problems with my lungs/breathing, heart, blood, or have been diagnosed with COVID-19.	Yes <input type="checkbox"/> Go to Box A	No <input type="checkbox"/>
2. I am over 45 years of age.	Yes <input type="checkbox"/> Go to Box B	No <input type="checkbox"/>
3. I struggle to perform moderate exercise (for example, walk 1.6 kilometer/one mile in 14 minutes or swim 200 meters/yards without resting), OR I have been unable to participate in a normal physical activity due to fitness or health reasons within the past 12 months.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4. I have had problems with my eyes, nose, throat, or sinuses.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5. I have had problems with my ears.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6. I have had problems with my teeth.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7. I have had problems with my skin.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
8. I have had problems with my back.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
9. I have had problems with my neck.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10. I have had problems with my joints.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
11. I have had problems with my muscles.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
12. I have had problems with my bones.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
13. I have had problems with my blood pressure.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
14. I have had problems with my cholesterol.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
15. I have had problems with my diabetes.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
16. I have had problems with my asthma.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
17. I have had problems with my allergies.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
18. I have had problems with my seizures.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
19. I have had problems with my epilepsy.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
20. I have had problems with my mental health.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
21. I have had problems with my depression.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
22. I have had problems with my anxiety.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
23. I have had problems with my bipolar disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
24. I have had problems with my schizophrenia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
25. I have had problems with my personality disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
26. I have had problems with my eating disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
27. I have had problems with my substance use disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
28. I have had problems with my alcohol use disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
29. I have had problems with my drug use disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
30. I have had problems with my gambling disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
31. I have had problems with my compulsive disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
32. I have had problems with my obsessive-compulsive disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
33. I have had problems with my phobic disorder.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
34. I have had problems with my specific phobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
35. I have had problems with my agoraphobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
36. I have had problems with my claustrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
37. I have had problems with my acrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
38. I have had problems with my arachnophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
39. I have had problems with my entomophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
40. I have had problems with my ophidiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
41. I have had problems with my cynophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
42. I have had problems with my canisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
43. I have had problems with my felisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
44. I have had problems with my murinephobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
45. I have had problems with my stratiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
46. I have had problems with my aviophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
47. I have had problems with my altimetophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
48. I have had problems with my claustrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
49. I have had problems with my agoraphobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
50. I have had problems with my acrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
51. I have had problems with my arachnophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
52. I have had problems with my entomophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
53. I have had problems with my ophidiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
54. I have had problems with my cynophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
55. I have had problems with my canisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
56. I have had problems with my felisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
57. I have had problems with my murinephobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
58. I have had problems with my stratiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
59. I have had problems with my aviophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
60. I have had problems with my altimetophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
61. I have had problems with my claustrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
62. I have had problems with my agoraphobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
63. I have had problems with my acrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
64. I have had problems with my arachnophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
65. I have had problems with my entomophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
66. I have had problems with my ophidiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
67. I have had problems with my cynophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
68. I have had problems with my canisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
69. I have had problems with my felisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
70. I have had problems with my murinephobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
71. I have had problems with my stratiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
72. I have had problems with my aviophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
73. I have had problems with my altimetophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
74. I have had problems with my claustrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
75. I have had problems with my agoraphobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
76. I have had problems with my acrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
77. I have had problems with my arachnophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
78. I have had problems with my entomophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
79. I have had problems with my ophidiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
80. I have had problems with my cynophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
81. I have had problems with my canisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
82. I have had problems with my felisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
83. I have had problems with my murinephobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
84. I have had problems with my stratiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
85. I have had problems with my aviophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
86. I have had problems with my altimetophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
87. I have had problems with my claustrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
88. I have had problems with my agoraphobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
89. I have had problems with my acrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
90. I have had problems with my arachnophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
91. I have had problems with my entomophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
92. I have had problems with my ophidiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
93. I have had problems with my cynophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
94. I have had problems with my canisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
95. I have had problems with my felisophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
96. I have had problems with my murinephobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
97. I have had problems with my stratiophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
98. I have had problems with my aviophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
99. I have had problems with my altimetophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
100. I have had problems with my claustrophobia.	Yes <input type="checkbox"/>	No <input type="checkbox"/>

UHMS Diving Medical Guidance

Jan 29, 2021

“The emergence of COVID-19 has placed an additional layer of complexity related to fitness to dive evaluations. **It is beyond the scope of this document to prescribe or mandate specific tests or timelines related to fitness to dive determinations.** What is of importance is awareness of the potential body systems effected by COVID-19, and to take a thoughtful and thorough history related to disease course, time since the infection resolved, and state of physical and mental health at the time of the examination.

Clinical factors that are important to consider include symptom severity during the infection and need for intensive care (e.g., ventilator support). **Disease severity likely correlates with the extent of pulmonary injury and potential cardiac involvement, and in the case of intubation, may be associated with severe deconditioning, muscle atrophy and even post-traumatic stress.** As such, assessment of the diver with a history of COVID-19, may require more than just a pulmonary evaluation. At the time of this publication, the medical community does not have sufficient data to support arbitrary requirements for specific testing, nor duration of post-infection convalescence after which individuals can be considered safe to return to diving.”





Diving after COVID-19

Sadler, Charlotte, et al. "Diving after SARS-CoV-2 (COVID-19) infection: Fitness to dive assessment and medical guidance." *Diving and hyperbaric medicine* 50.3 (2020): 278.

What data do we have?

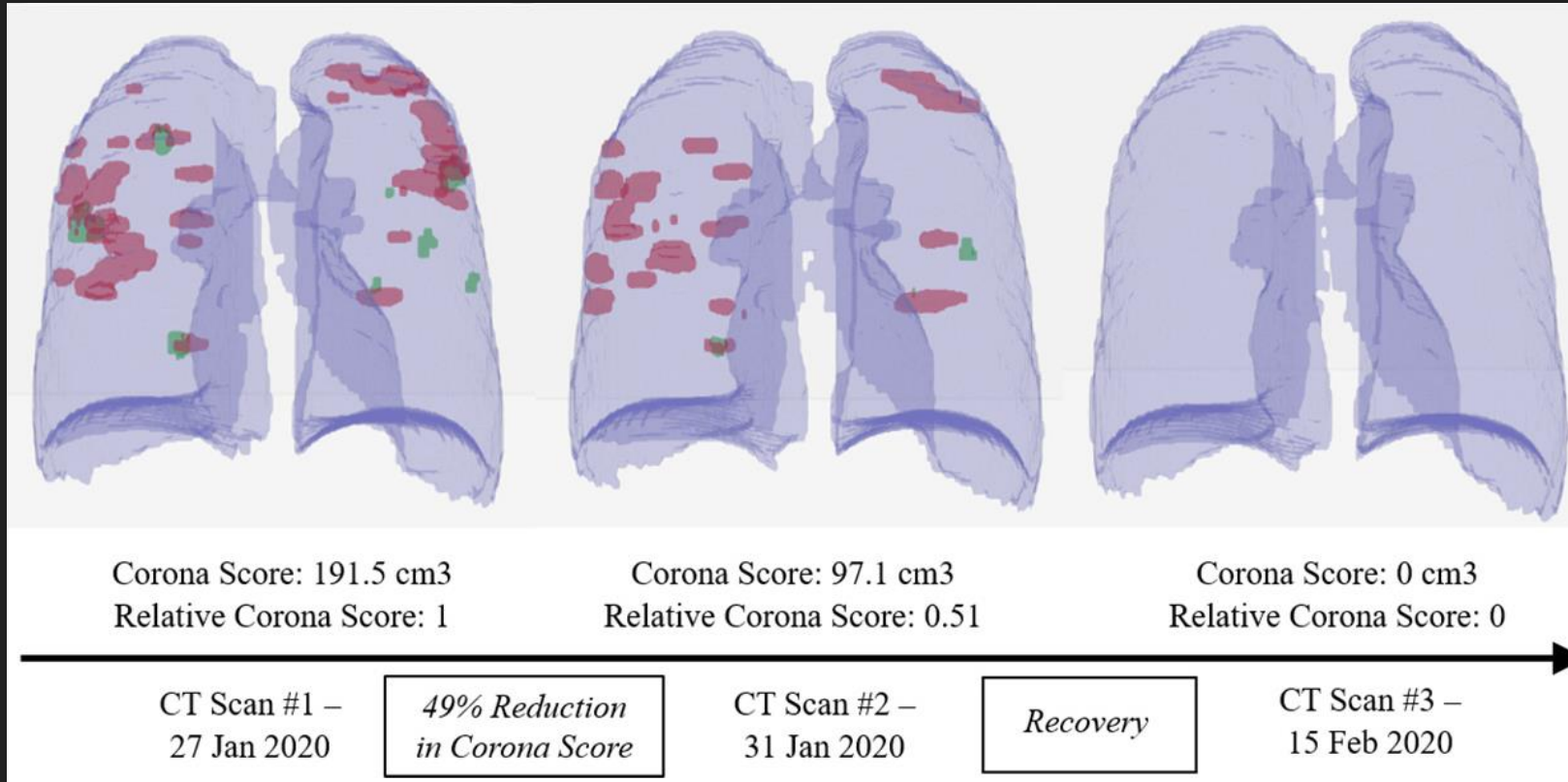
1) Learnings from SARS (SARS-CoV-1) and MERS

- 258 SARS patients, followed for 3 months post-recovery
- **+30 days:** 19% had residual lung abnormalities
- **+140 days:** 15% had residual issues, including air trapping

2) CT scans of COVID-19 patients with mild to moderate disease symptoms



Diving after COVID-19



Source: RADlogics.

Diving after COVID-19

Sadler, Charlotte, et al. "Diving after SARS-CoV-2 (COVID-19) infection: Fitness to dive assessment and medical guidance." *Diving and hyperbaric medicine* 50.3 (2020): 278.

- COVID-19 infection can potentially lead to long-term impact on the functional tissue of the lungs.
 - Increased susceptibility to AGE, DCS, IPE
 - Decreased exercise tolerance
 - Increased susceptibility to cardiac failure, arrhythmias
- Heightened return-to-diving medical screening is recommended.



Diving after COVID-19

Sadler, Charlotte, et al. "Diving after SARS-CoV-2 (COVID-19) infection: Fitness to dive assessment and medical guidance." *Diving and hyperbaric medicine* 50.3 (2020): 278.



Category 0 <i>NO history of COVID-19-suspected illness</i>	Category 1 <i>MILD COVID-19-suspected illness</i>	Category 2 <i>MODERATE COVID-19-suspected illness</i>	Category 3 <i>SEVERE COVID-19-suspected illness</i>
<p>Definition: Divers who have no history of COVID-19 suspected illness should proceed with normal evaluations. Additionally, we would use these criteria in those who may have had a positive screening PCR or antibody test, but without any history of illness or symptoms consistent with COVID-19.</p>	<p>Definition:</p> <ul style="list-style-type: none"> ● Did not seek health care or received outpatient treatment only without evidence of hypoxaemia. ● Did not require supplemental oxygen. ● Imaging was normal or not required. 	<p>Definition:</p> <ul style="list-style-type: none"> ● Required supplemental oxygen or was hypoxic. ● Had abnormal chest imaging (chest radiograph or CT scan). ● Admitted to the hospital but did NOT require mechanical (intubation) or assisted ventilation (BIPAP, CPAP) or ICU level of care. ● If admitted, had documentation of a normal cardiac work up including normal ECG and cardiac biomarkers e.g., troponin or CK-MB and BNP. 	<p>Definition:</p> <ul style="list-style-type: none"> ● Required mechanical (intubation) or assisted ventilation (BIPAP, CPAP) or ICU level of care. ● Cardiac involvement defined as abnormal ECG or echocardiogram, or elevated cardiac biomarkers e.g., troponin or CK-MB and BNP (or absence of documented work up). ● Thromboembolic complications (such as pulmonary embolism, DVT, or other coagulopathy).

Category 0 <i>NO history of COVID-19-suspected illness</i>	Category 1 <i>MILD COVID-19-suspected illness</i>	Category 2 <i>MODERATE COVID-19-suspected illness</i>	Category 3 <i>SEVERE COVID-19-suspected illness</i>
<ul style="list-style-type: none"> ● Initial/periodic exam per professional group or RSTC guidelines. ● Chest radiograph only if required per professional group or RSTC guidelines. ● No additional testing required. 	<ul style="list-style-type: none"> ● Initial/periodic exam per professional group or RSTC guidelines. ● Spirometry. ● Chest radiograph (PA and lateral); if abnormal, obtain chest CT. ● If unknown (or unsatisfactory) exercise tolerance*, perform exercise tolerance test with oxygen saturation. 	<ul style="list-style-type: none"> ● Initial/periodic exam per professional group or RSTC guidelines. ● Spirometry. ● Chest radiograph (PA and lateral); if abnormal, obtain chest CT. ● ECG. ● Echocardiogram (if no work up was done as an inpatient. Can forgo if had negative work up). ● If unknown (or unsatisfactory) exercise tolerance*, perform exercise tolerance test with oxygen saturation. ● Investigation and management of any other complications or symptoms per provider and professional group or RSTC guidelines. 	<ul style="list-style-type: none"> ● Initial/periodic exam per professional group or RSTC guidelines. ● Spirometry ● Chest radiograph (PA and lateral); if abnormal, obtain chest CT. ● ECG. ● Repeat cardiac troponin or CK-MB and BNP to ensure normalization. ● Echocardiogram. ● Exercise Echocardiogram with oxygen saturation. ● Investigation and management of any other complications or symptoms per provider and professional group or RSTC guidelines.

European Committee for Hyperbaric Medicine



EUROPEAN COMMITTEE FOR HYPERBARIC MEDICINE

EUBS European Underwater and
Baromedical Society

EUBS & ECHM position statement

on recreational and professional diving after the Coronavirus disease (COVID-19) outbreak

Some countries in Europe have started to release the strict preventive measures taken to combat the spread of SARS-CoV2 and COVID-19 disease. As a result, and depending on the epidemiological situation in the region, the previous EUBS/ECHM position statement on the advisability of recreational and professional diving and performing diving medical examinations during the Coronavirus disease (COVID-19) outbreak must be updated to reflect the new situation in some regions [1].

Hereby, the following recommendations are given for both recreational and professional diving after the Coronavirus disease (COVID-19) outbreak.

It is expected that the virus SARS-COV2 will persist in the community, leading to a continued risk of transmission between persons if staying in direct proximity or sharing common personal equipment. Every dive center or diving team should conduct an analysis of risk prevention and mitigation using published recommendations (for example [2]). Generally, it is recommended:

1. **To continue the social distancing measures** as required by the local authorities also during diving operations (mostly during the surface phase of diving operations).
2. **To disinfect private and rental equipment**, including emergency oxygen units, with appropriate disinfectants covering broad spectrum of germs, including fungi, bacteria, spores and viruses.
3. **To avoid exchange of personal breathing systems** except in real emergency situations.
4. To plan any "breathing systems sharing" exercises in such a way that **personal protection** is ensured.

International Association of Francophone Hyperbaric Centres



Association Internationale des
Centres Hyperbares
Francophones

Geneva, May 7, 2020

The International Association of Francophone Hyperbaric Centres (ICHF) Position Statement on resuming professional diving activities within the context of the coronavirus SARS-Cov-2 (COVID 19) pandemic.

The coronavirus SARS-Cov-2 (COVID 19) pandemic has held sway for several weeks in our countries at differing stages of evolution. While it is just starting in certain countries, it seems to be regressing in a few countries.

However, the virus has not been eradicated; no vaccine has been found so far; there is not as yet an efficient treatment; the majority of the population is probably not immune... Thus it is essential to continue efforts towards limiting the propagation of the pandemic by maintaining barrier precautions (social distancing, regular hand washing-disinfection, wearing a mask...) until a solution has been found. These precautionary measures are recommended in most countries when lockdown is over. We have to adapt them to the specific requirements of companies working in a hyperbaric environment, after analysing the risks of contamination and testing them via simulation.

These recommendations only concern medical aptitude to intervene in a hyperbaric environment during a Covid-19 pandemic. They take into consideration the latest scientific data, experts' advice but also the difficulty to have access to medical imaging devices and functional examination because of a great demand and barrier precautions. These recommendations are aimed at occupational health physicians who are solely responsible for making decisions regarding aptitude for operations in a hyperbaric environment. They provide answers to a certain number of questions: Who can dive immediately, without a previous medical check-up and with no restrictions? On the contrary: what delay to respect? Which medical check-up? By whom? Which specific clinical examination? Which paraclinical check-up? And possibly any restrictions? A descriptive form allows all physicians to communicate disagreements coming up from home base data. These recommendations could be adapted at all times with regard to the descriptive forms, validation of serological tests and/or the evolution of scientific data. They also have to be adapted to work stations.

ICHF, centre Hyperbare, service des urgences, HUG rue G. Perret-Gentil 2, 1201 Genève, Switzerland.

ichf@hcuge.ch

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Belgian Society for Diving and Hyperbaric Medicine



Société Belge de Médecine Hyperbare et Subaquatique asbl
Belgische Vereniging voor Overdruk- en OnderwaterGeneeskunde vzw

Position of the Belgian Society for Diving and Hyperbaric Medicine (SBMHS-BVOOG) on Diving after COVID-19 pulmonary infection

April 12th, 2020

The COVID-19 pandemic has had a major impact on recreational and professional diving activities, with an almost complete cessation of this activity during many weeks/months. These measures were a logical consequence of Government and Public Health Care recommendations to limit unnecessary commuting but also because it is virtually impossible to observe the regulations of "social distancing" and avoiding the possible sharing of divers' breathing equipment. Lastly, there is a real possibility that emergency first aid teams may be overwhelmed by cases related to COVID-19 or the logistics involved (decontamination procedures), and not be able to respond in a timely and efficient manner.

When the precautionary measures to combat the pandemic will be relaxed, it is important to resume normal recreational and professional diving activities as soon as reasonably possible, both for the social, physical and mental welfare of the diving population. The question has been raised, whether having suffered and recovered from COVID-19 has any influence on the medical fitness to dive or the risk of diving accidents.

Novel Corona Virus (SARS-CoV-2) infection (COVID-19) can manifest itself with various clinical syndromes, ranging from no symptoms, over a flu-like syndrome, to severe pulmonary compromise (ARDS – Acute Respiratory Distress Syndrome) and cardiac symptoms (cardiomyopathy). Factors that determine the severity of COVID-19 symptoms are but incompletely known: older persons, suffering from other medical conditions, are an obvious group at risk; also, heavy smokers and obese persons seem to have more risk of complications; however, there are numerous cases reported of young, previously healthy persons in whom the disease has had a sudden and dramatic evolution. In general, if the symptoms were mild and improve within a week to complete resolution, the risk for permanent damage to heart or lungs is very low.

The Board of the SBMHS-BVOOG, after examining the relevant and available literature and discussion with several experts, recommends:

1. **Risk of spreading COVID-19:** a person who has had symptomatic COVID-19 can, just as someone who was infected but did not have symptoms, spread viral particles in nasal or oral secretions for a certain period after recovery, and thus, still be contagious to others. The exact period during which this is possible is not known and probably variable, but has been reported to be up to 37 days or longer. This is an important consideration for the possible sharing of breathing regulators (buddy-breathing) but also for rescue actions in case of a diving accident.

Secretaria(a)t: Sigrid Theunissen – Weygenstraat, 26 - 3060 Bertem
Tel: 0475/44.10.44 – E-mail: secretary@sbmhs-bvoog.be
Website: www.sbmhs-bvoog.be – N° Enterprise: 428.739.109

Secretaria(a)t: Sigrid Theunissen – Weygenstraat, 26 - 3060 Bertem
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Website: www.sbmhs-bvoog.be – N° Enterprise: 428.739.109

Duty of Care



Communicable Disease Exclusion

GameDay Aviva Insurance Company of Canada

Policy Declarations

COMMERCIAL GENERAL INSURANCE POLICY Policy Number: **GAME00402-010**
Status: **Renewal**

NAMED INSURED: Ontario Underwater Council & Member Clubs
MAILING ADDRESS: 13 Highland Drive, Port Hope, ON, L1A 2B3
BROKER: Arthur J. Gallagher Canada Limited
ADDRESS: 435 McNeilly Road, Suite 103, Stony Creek, ON, L8E 5E3

POLICY PERIOD: From: **January 1, 2021 To: January 1, 2022**
12:01 a.m. Standard time at the Mailing Address of the Named Insured as stated herein.

WARNING - THIS POLICY MAY CONTAIN A WARRANTY THAT MAY VOID COVERAGE
This policy contains a clause which may limit the amount payable.
The only insurance afforded by this Policy is that which is provided by the forms indicated below. Reference should be made to the applicable forms for details.

Location: 13 Highland Drive, Port Hope, ON, L1A 2B3
Description of Operations: Sanctioned Activities of the Named Insured with Respect to Sanctioned and Supervised Underwater Diving, Technical Diving and Non Diving Activities (as on file with Insurer)

Forms and Endorsements Applicable to the Commercial General Liability

Form Number	Coverage and/or Form Name	Deductible (\$)	Limits of Insurance (\$)	Premium
5000102	LIABILITY			
5000102	Commercial General Liability Coverage Form			Deposit
	CGI Each Occurrence Limit		\$5,000,000	\$5,000.00
	Personal and Advertising Injury Limit		\$5,000,000	
	Medical Expense Limit (Any one person)		\$10,000	
	Products - Completed Operations Aggregate Limit		\$5,000,000	
	Tenants Legal Liability (Any one premises)	\$1,000	\$2,000,000	
	Commercial General Liability Per Occurrence Deductible			
	Property Damage	\$1,000		
	Bodily Injury	\$1,000		
	Incidental Medical Malpractice Liability		Included	
	Errors & Omissions Liability	\$1,000	\$1,000,000	
908000-01	Nonprofit Org.'s Directors' & Officers' Liability Form		Not Insured	
	A. Directors' & Officers' Liability, aggregate		Not Insured	
	B. Employment Practices Liability, aggregate		Not Insured	
	C. Outside Directorships Liability, aggregate		Not Insured	
	Retroactive date:			
5250902	Additional Insured - Blanket Basis		Included	
5000103	Employers Liability Coverage Extension		\$5,000,000	
5000200	Non-Owned Automobile - SPF No. 6		\$5,000,000	
5000201	S.E.F. No. 96 - Contractual Liability Endorsement		Included	
5000202	S.E.F. No. 99 - Excluding Long Term Leased Vehicles Endorsement		Included	
5000203	S.E.F. No. 94 - Legal Liability for Damage to Hired Automobiles All Parts	\$1,000	\$50,000	
5002598	O.E.F. 98B - Reduction of Coverage for Lessees Endorsements		Included	
Endorsements to Policy				\$40.00
Refer to schedule on following page				
Location 1 Premium			\$5,040.00	
				Deposit

Date Issued: January 29, 2021
Policy Number: GAME00402-010
Claims Assist: 1-866-661-7507

THIS ENDORSEMENT CHANGES THE POLICY.
PLEASE READ IT CAREFULLY.

COMMUNICABLE DISEASE EXCLUSION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

The following exclusion is added to Paragraph 2. Exclusions of SECTION 1 - COVERAGES - COVERAGE A. BODILY INJURY and PROPERTY DAMAGE LIABILITY:

This insurance does not apply to:

Communicable Disease

"Bodily injury", "property damage" or any other loss, cost or expense, arising directly or indirectly, in whole or in part, out of the actual or alleged transmission of any "communicable disease" or which is any way related to the transmission of any "communicable disease" or any fear or threat of the spread of any "communicable disease".

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in any:

- a. Employing, hiring, supervising, training or monitoring of any person (including, but not limited to, any "employee", "volunteer worker", contractor or others who are working under contract for or on behalf of any insured) that may be infected with and transmit any "communicable disease";
- b. Testing for any "communicable disease";
- c. Failure to perform services which were either recommended to, intended to or assumed to prevent any "communicable disease" or the transmission to others;

Failure to perform services which were either recommended to, intended to or assumed to prevent any "communicable disease" or the transmission to others;

Testing for any "communicable disease";

Failure to perform services which were either recommended to, intended to or assumed to prevent any "communicable disease" or the transmission to others;

Communicable Disease Exclusion

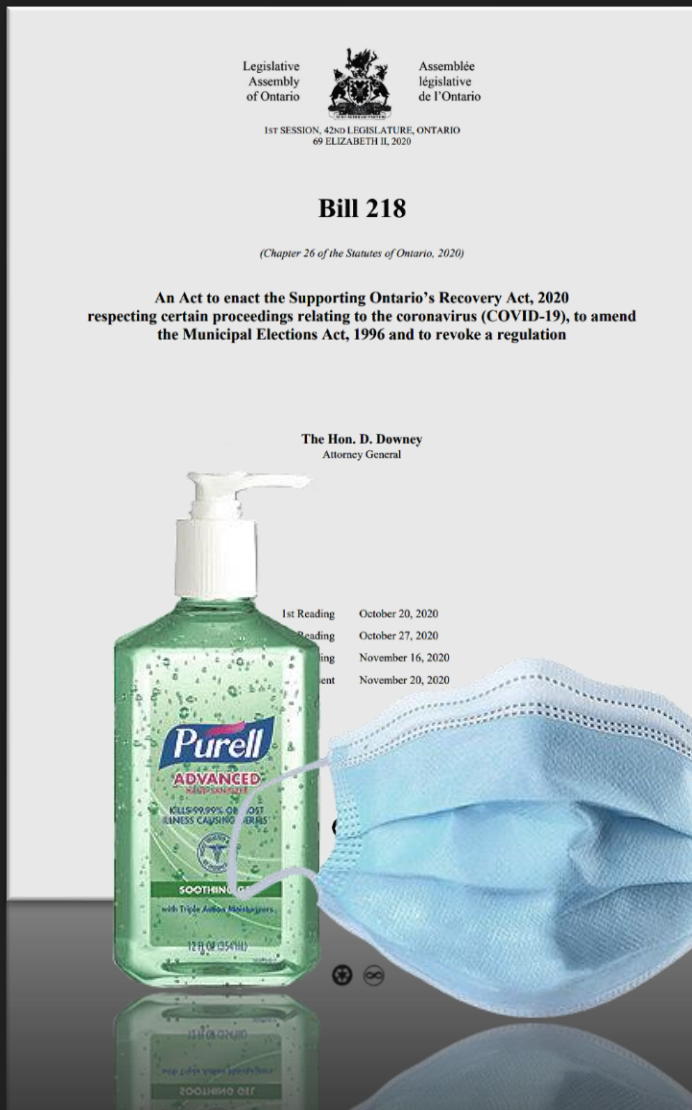
“Communicable disease” means any disease, virus or contagion, any derivative, mutation or variation of the disease, virus or contagion, including, but not limited to, that designated as such by any of the following:

- A. a Federal, Provincial, Territorial or Municipal authority or agency;
- B. a Minister of the Federal, Provincial or Territorial Crown;
- C. a person occupying the position of Chief Medical Officer of Health (or similar position) of a Province, Territory or Municipality;
- D. the World Health Organisation;
- E. the Center for Disease Control/Centre for Disease Control of
 - a. Canada or any Canadian Province or Territory;
 - b. the United Kingdom of Great Britain and Northern Ireland; or
 - c. of the United States of America and any American State or Territory.

For purposes of greater clarity, “communicable disease” includes, but is not limited to, the following diseases, virus or contagion:

- 1) Coronavirus disease (COVID-19);
- 2) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2);
- 3) Ebola;
- 4) Avian Influenza (Avian Bird Flu); and,
- 5) Legionella (Legionnaire’s Disease).

Ontario Bill 218



“... no cause of action arises against any person as a direct or indirect result of an individual being or potentially being infected with or exposed to coronavirus (COVID-19) on or after March 17, 2020 as a direct or indirect result of an act or omission of the person if,

- (a) at the relevant time, the person acted or made a good faith effort to act in accordance with,
 - i. public health guidance relating to coronavirus (COVID-19) that applied to the person, and
 - ii. any federal, provincial or municipal law relating to coronavirus (COVID-19) that applied to the person; and
- (b) the act or omission of the person does not constitute gross negligence.”

Duty of Care

- Asking and recording screening questions of all participants?
- Recording participants' names and contact details for contact tracing?
- Allowing participants in a locked-down region to participate in activities in an opened-up region (or vice-versa)?
- Restricting the number of participants to required limits?
- Screening participants for fever?
- Ensuring participants comply with physical-distancing, wearing PPE (masks, gloves, etc.)?
- Sanitizing hands, high-contact surfaces and equipment?
- Allowing non-vaccinated people to participate?


The background is a dark, almost black, gradient. It is decorated with numerous water droplets of various sizes and shapes. Some are large and prominent, while others are small and scattered. The droplets have a realistic, glossy appearance with highlights and shadows, giving them a three-dimensional feel. They are distributed across the frame, with a higher concentration in the upper and lower corners.

**GETTING YOU BACK
IN THE WATER**

Skills Refresher



Returning to Diving



Period	Health	Fitness*	Skills	Equipment
Up to 12 months	RSTC medical form as a guide	Personal activity history; self-assessment	Refresher dive	Regular maintenance
1 to 3 years	Annual medical	Swimming pool test	Pool refresher / Skills update	Professional service
3 -10 or more years		Supervised fitness test	Comprehensive refresher course	
10 or more years	Entry-level fitness-to-dive evaluation		Full open water course	Consider an update

Source: Divers Alert Network, "Return-To-Diving Tips For Specific Periods Of Inactivity"

1989 Edition

35min @ 80ft = "H"



DIVE TABLES

TABLE 1 - END-OF-DIVE LETTER GROUP

WARNING: EVEN STRICT COMPLIANCE WITH THESE TABLES WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS. CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ADT ACTUAL DIVE TIME
TNT TOTAL NITROGEN TIME

(USE THIS FIGURE TO DETERMINE END-OF-DIVE LETTER GROUP.)

START DEPTH	M		F		00		00		00		00		00		00		00		00			
	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET		
12	40	5	15	25	30	40	50	70	80	100	110	130	150	5								
15	50		10	15	25	30	40	50	60	70	80		100	5								
18	60		10	15	20	25	30	40	50		55	60	80	7								
21	70		5	10	15	20	30	35	40		45	50	60	70								
24	80		5	10	15	20	25	30	35		40	45	50	60								
27	90		5	10	12	15	20		25		30	35	40	14								
30	100		5	7	10	15	20		22		25		30	17								
33	110			5	10	13		15			20		30	17								
36	120			5	10		12		15			25	30	18								
40	130				5		8		10				25	18								

2019 Edition

35min @ 80ft = **Mandatory Deco**



AIR DIVE TABLES

TABLE 1: END-OF-DIVE LETTER GROUP

WARNING: EVEN STRICT COMPLIANCE WITH THESE TABLES WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS. CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ADT ACTUAL DIVE TIME
TNT TOTAL NITROGEN TIME

(USE THIS FIGURE TO DETERMINE END-OF-DIVE LETTER GROUP.)

START DEPTH	MSW		FSW		00		00		00		00		00		00		00		00		00		
	MSW	FSW	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	M	FEET	
6	20	26	43	61	82	106	133	165	205	256	330	461											
9	30	17	27	38	50	62	76	91	107	125	145	167	193	223	260	5							
12	40	12	20	27	36	44	53	63	73	84	95	108	121	130	140	6							
15	50	9	15	21	28	34	41	48	56	63	71	75	80	2									
18	60	7	12	17	22	28	33	39	45	50			48	2									
21	70	6	10	14	19	23	28	32	37	40				2									
24	80	5	9	12	16	20	24	28	30				35	1									
27	90	4	7	11	14	17	21	24	25				30	5									
30	100	4	6	9	12	15	18	20					25	5									
33	110	3	6	8	11	14	15						20	5									
36	120	3	5	7	10	12							15	5									
40	130	2	4	6	8								10	5									

AVOID REPETITIVE DIVE ONED ВЕРТІВІЛІ ВЛОІД

NAUI: Refresher Scuba Course



Standards and Policies Manual

2021 Edition
Copyright ©2021 NAUI
Version 1.0
Product#12902

Refresher Scuba

OVERVIEW AND QUALIFICATIONS

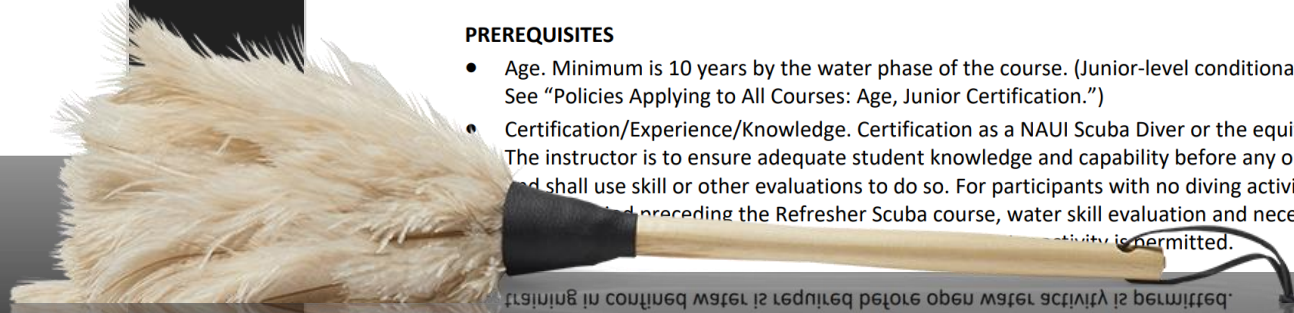
This is a non-certification program which affords supervised refresher experience at the Scuba Diver level for divers who need to re-establish proficiency owing to diving inactivity in light of intended dive trips or other factors. Divers who have completed the Refresher Scuba course may use the documentation to assist dive guides, Divemasters, resort owners, boat captains and others in evaluating the diver's training level and readiness to participate in specific diving activities. Divers who have completed Refresher Scuba dives but not the entire program may use their logbook verifications in a similar manner.

WHO MAY CONDUCT

- Any active-status NAUI Instructor, NAUI Divemaster, or scuba certified NAUI Skin Diving Instructor, using NAUI support materials.

PREREQUISITES

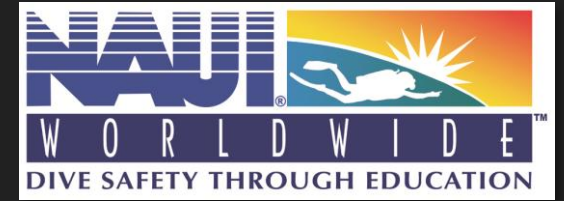
- Age. Minimum is 10 years by the water phase of the course. (Junior-level conditional restrictions apply. See "Policies Applying to All Courses: Age, Junior Certification.")
- Certification/Experience/Knowledge. Certification as a NAUI Scuba Diver or the equivalent is required. The instructor is to ensure adequate student knowledge and capability before any open water training and shall use skill or other evaluations to do so. For participants with no diving activity during the 12-month period preceding the Refresher Scuba course, water skill evaluation and necessary refresher training in confined water is required before open water activity is permitted.



training in confined water is required before open water activity is permitted. The instructor is to ensure adequate student knowledge and capability before any open water training and shall use skill or other evaluations to do so. For participants with no diving activity during the 12-month period preceding the Refresher Scuba course, water skill evaluation and necessary refresher training in confined water is required before open water activity is permitted.

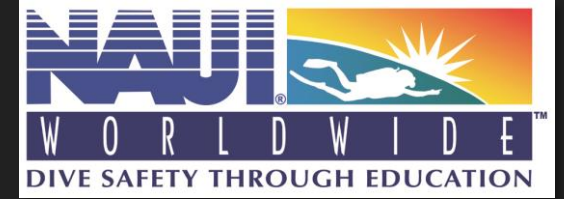
In the last 3 years, have you...





Pre-/Post-Dive Skills

- Select, check, assemble, adjust and don equipment
- Perform pre-dive gear check for self and buddy
- Defog masks
- Perform surface buoyancy/weighting check and make adjustments as needed to hover at diving depth
- Correctly give and recognize surface communications for divers
- Orally inflate and deflate own and buddy's BC
- At the surface, remove and replace (in turn): mask, fins, weight system, and scuba unit
- With face submerged, breathe through snorkel while resting and swimming
- With face submerged, breathe through water in the snorkel without choking
- Release a simulated muscle cramp from self and buddy
- If appropriate for the area, enter and exit the water with a float and/or, "Diver Down" flag and line; use to identify the dive area while diving
- After diving, doff, rinse and care for gear

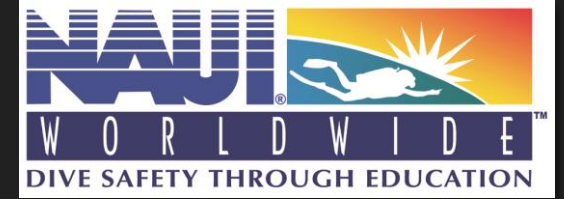


Descent/Ascent Skills

- Control pressure in air spaces for comfortable, controlled descents and ascents
- Descend feet-first with a minimum of hand or fin movement, using breath control or BC to control rate of descent
- At the end of a dive, ascend at a controlled steady rate of 9m (30 ft.) or less per minute and hover at a depth of approximately 4.6m (15 ft.) for three minutes

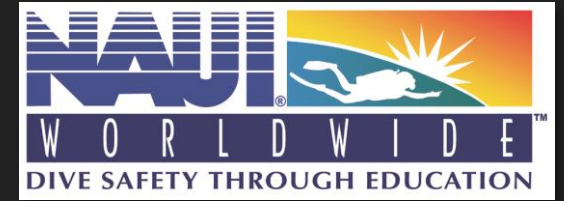
Environmental Skills

- Dive using skills that have a minimal impact on the environment and promote conservation
- Recognize and identify (by common name) samples of plant and animal life typically seen



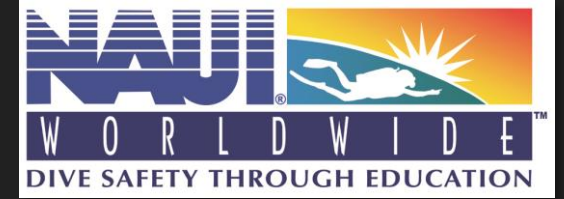
Underwater Skills

- Give, recognize and respond appropriately to common underwater communications
- Mask clearing, including removal and replacement
- Regain primary regulator from behind the shoulder
- Hover without support or significant movement
- If wearing a standard buckle type weight belt and submerged in a prone position at the bottom or while hovering, adjust the position of the weight system so that the ballast is evenly distributed
- If wearing a weight-integrated weight system, and submerged in a prone position at the bottom or while hovering, remove and replace at least one weight pocket, if permitted by the weight system. If necessary, assistance is allowed to replace the weight pocket
- Use the buddy system for scuba diving, remaining within 3m (10 ft.), or less if required by conditions, of buddy
- Monitor air supply and communicate amount remaining upon request and manage air supply so as to surface with a pre-planned minimum amount of air
- Using environmental navigation aids and a compass, travel underwater to a designated location or in a given direction for a set period of time
- Use an underwater compass to set a bearing: follow the bearing and return on a reciprocal course to the approximate starting location



Planning Skills

- Measure, record and calculate individual air consumption (as surface air consumption rate) using a submersible pressure gauge, depth gauge and timing device.
- Plan and make a no-required-stop dive to a depth between 12 to 18m (40 to 60 ft.). Planning is to consider at a minimum; adequate breathing gas supply for descent, time at depth, ascent, precautionary stop and safety margin.
- Upon completion of a dive, use the repetitive dive table to properly calculate a planned no-required stop repetitive dive projected to begin after at least a one-hour surface interval. It is acceptable for students to be instructed in the use of their personally owned dive computers in lieu of using dive tables for dive planning. (The actual dive need not be conducted.)
- Nitrox-certified divers: analyze a tank, calculate Maximum Operating Depth, plan a dive using either Nitrox tables or Nitrox mode on dive computer



Rescue Skills

- Transport for a distance of at least 46m (50 yards) a buddy who is simulating exhaustion. Eye-to-eye or voice contact between rescuer and diver must be maintained
- In a stationary position in confined water and at a minimum depth of 4.6m (15 ft.) in open water, share air in a controlled manner with another diver, be both the donor of air and receiver of air
- Perform a relaxed, controlled emergency swimming ascent in confined water and from a minimum depth of 4.6m (15 ft.) in open water
- Share air as both a donor and a receiver from an octopus or alternate breathing source (not buddy breathing) during ascents in confined water and from a minimum depth of 4.6m (15 ft.) to the surface in open water
- Bring a diver simulating unconsciousness to the surface from a depth of approximately 3m (10 ft.), remove victim's weight system, mask and snorkel; simulate in-water rescue breathing

Anonymous Poll...



The background is a dark, almost black, gradient. It is decorated with numerous water droplets of various sizes and shapes. Some are large and prominent, while others are small and scattered. The droplets have a realistic, glossy appearance with highlights and shadows, suggesting they are on a smooth surface. The overall aesthetic is clean and modern.

GETTING YOUR EQUIPMENT BACK IN THE WATER

Gear Maintenance

Mask

- Check for cracks, tears, pliability of the strap, mold and (if equipped) the purge valve.
- Check your defog solution.
- Check your Save-a-Dive kit for a spare mask strap!



Gear Maintenance

Fins

- Check for cracks, tears, pliability, and that the buckles and straps are operational.
- Check your Save-a-Dive kit for a spare fin strap!



Gear Maintenance

Snorkel

- Check for mold, pliability and security of the mouthpiece, missing bite-tabs, cracks or other damage to the tube, and (if equipped) the purge valve.
- Check your Save-a-Dive kit for a spare snorkel keeper!



Gear Maintenance

Boots, Hood and Gloves

- Check that zippers are still working.
- Examine material for tears and pliability.



Gear Maintenance

Wetsuit



- "Covid 15". Forget it: it won't fit any more.

Gear Maintenance

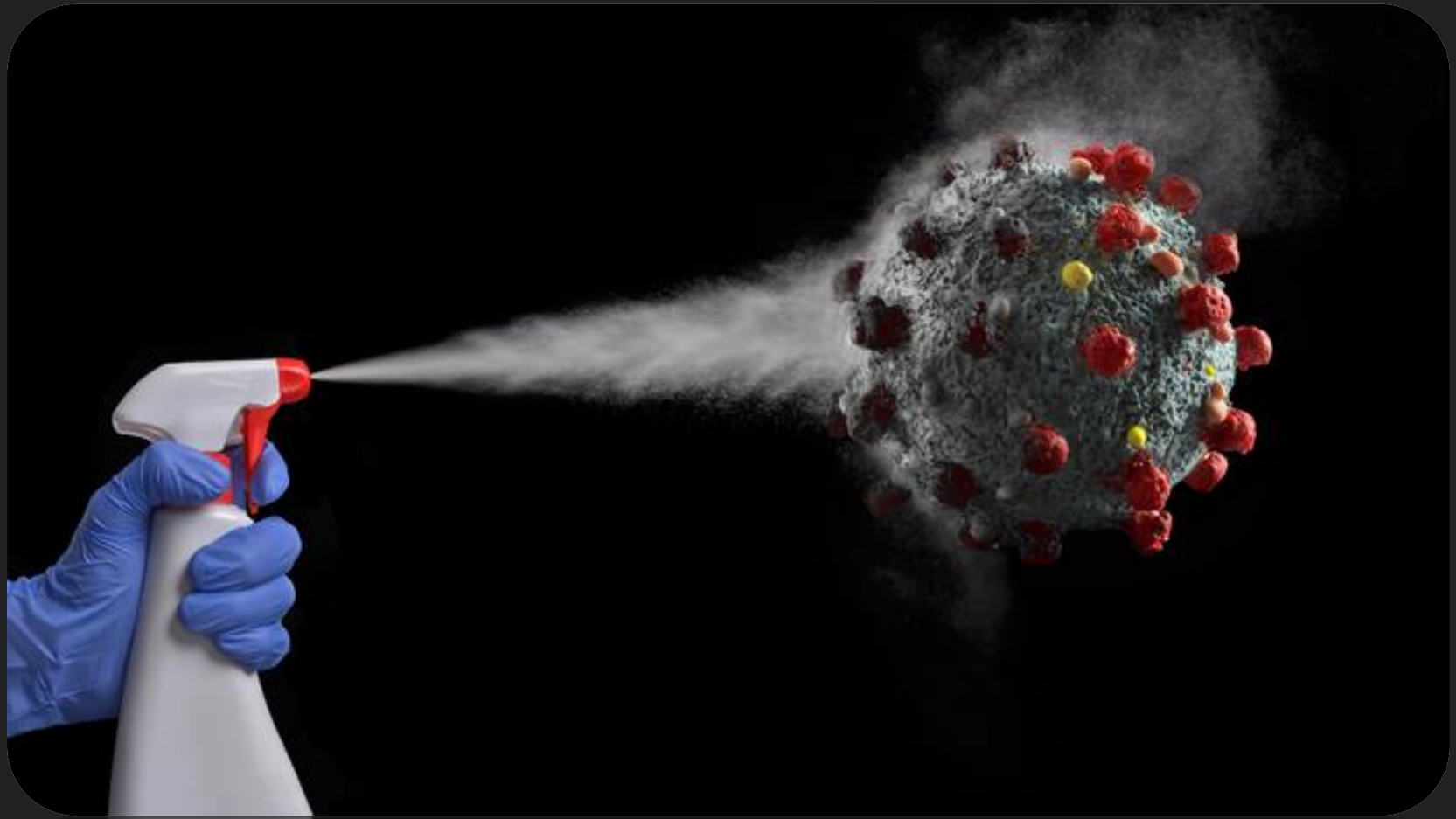
BC

- Check for tears, rips, stitching, glued parts, D-rings, buckles and Velcro on the cummerbund.
- Check the manual-inflator, power-inflator and dump valves for cracks/damage, and confirm function.
- Check weight pockets for smooth operation and function.
- Inflate the bladder and ensure it holds air (ideally 12+ hours).



Gear Maintenance

- Annual regulator servicing
- Scuba tanks: annual visual inspection, 5-year hydrostatic test
- Dive computer battery + read the manual
- Camera O-rings
- First Aid supplies (expiry dates): bandaids, ointment, Gravol, Cipro, etc.
- AED battery / pads



Gear Disinfection

Equipment should be disinfected, especially when it comes into contact with the face, eyes or mouth. This includes but is not limited to:

- Second stage regulator mouthpieces and internal surfaces
- Snorkels
- BC oral inflators
- Masks
- SMB oral inflators
- Shared equipment, like reels / spools

There is very little data on SARS-CoV-2, and much of it is preliminary. Most guidance is currently based on the SARS-CoV-1 virus, because of the greater availability of data, and that it is (believed to be) more difficult to kill than COVID-19.

Gear Disinfection

Soap and Water

- Washing hands and surfaces with soap and water is one of the most effective ways to protect against the virus. The type of soap used is not important.
- **Washing with soap and water does not kill microorganisms but physically removes them from a surface.** Running water by itself can be effective in removing some unwanted material from surfaces, however, soap will physically pull material from the skin and into the water.
- Soap and water must be combined with mechanical action to be completely effective. **Soaking scuba equipment in soapy water alone is not an effective disinfection method.** If soapy water was combined with mechanical action, it would theoretically prove to be more efficient. However, there are some parts of scuba equipment that are not easily reached without disassembly, such as the inside of a regulator. Since an exhaled breath will travel through the inside of a regulator and make contact with the diaphragm, lever arm, and other internal surfaces, soaking the regulator in a disinfectant solution may be a better option.

Gear Disinfection

Isopropyl Alcohol

- Hardens and swells some plastics and rubbers. Harmful to silicone: may cause brittleness.
- Evaporates quickly: not a good surface disinfectant
- High risk of fire hazard in high-pressure / high-oxygen environments.

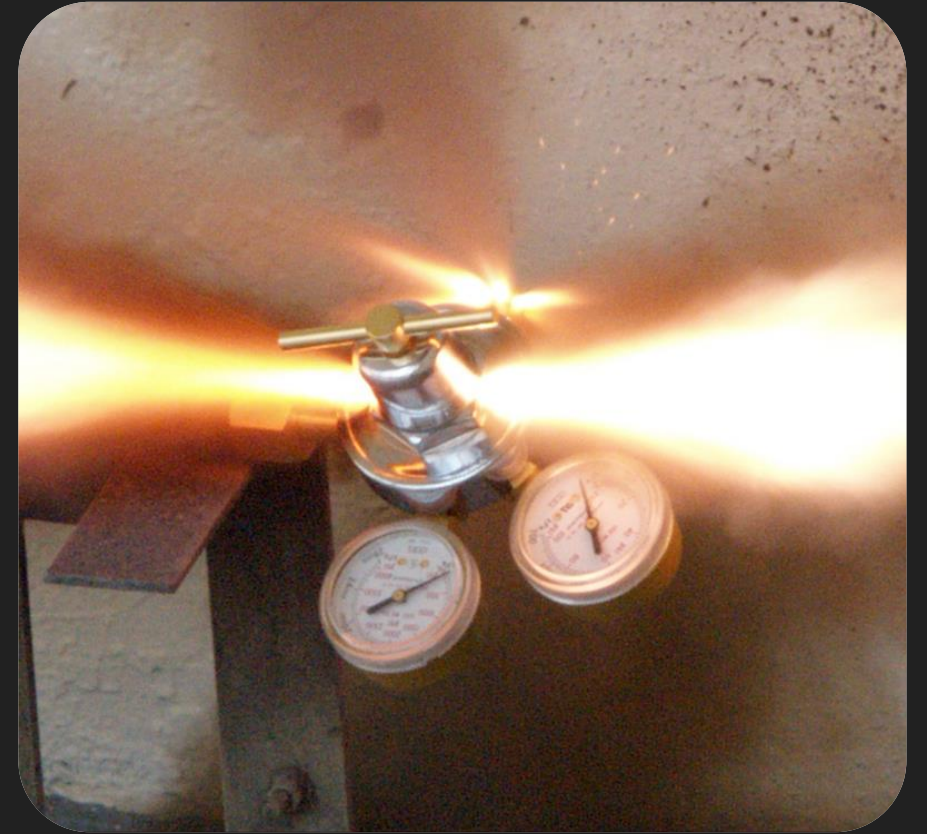


Photo Credit: ESAB

Source: Public Health Ontario, "Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices in all Health Care Settings" (3rd ed.)

Gear Disinfection

Heat

- One study found that the SARS-CoV-1 virus loses infectivity after being heated to 133°F (56°C) for 15 minutes, and the World Health Organization specifies this temperature and timing as well. Another study found that the SARS-CoV-1 virus remains stable between 40°F (4°C) and 98°F (37°C) and would lose infectivity after **30 minutes at 133°F (56°C)**.
- In practice, difficult to maintain these temperatures / times for scuba gear disinfection, and it could result in warping / damage to some synthetic parts.
- Obvious reminder: **never heat your tanks.**

Gear Disinfection

Bleach

- In a study that examined SARS-CoV-2 specifically, it was found that a bleach concentration of 0.1 percent was needed to reduce infectivity when sprayed onto a hard-non-porous surface. A second study found that **0.1 percent solution would inactivate the virus within 1 minute.**
- 0.1 percent is roughly **4 teaspoons of standard household bleach mixed in 1 litre of cold water.** (Note that some brands of bleach have different concentrations of the active ingredient, such as those that are thickened and marketed to reduce splashing: you may need to adjust!)
- Items disinfected with bleach must be thoroughly rinsed with fresh water and allowed to dry before use, as it is corrosive to stainless steel (in higher concentrations) and irritating to mucous membranes, skin and eyes. Highly concentrated **bleach solutions have also been found to be harmful to life-support equipment, causing metal fatigue and in some cases hose failure.** As such these solutions are not used by EPA units for dive equipment when effective alternatives exist.
- Apeks specifically advises: **“WARNING do not use bleach-based disinfectants or disinfectants known to be corrosive, as these can prematurely age or corrode the equipment being used.”**

Source: Divers Alert Network, “Disinfection of Scuba Equipment and COVID-19” (Jun 2, 2020)

Source: <https://www.apekssdiving.com/technically-inspired/blog/item/17-disinfecting-dive-equipment.html>

Gear Disinfection

Quats (Quaternary Ammonium Compounds)

- “Quats” are a group of chemicals that are active ingredients in many common cleaning solutions (scuba or otherwise).
- **Studies have shown that quats are effective against SARS-CoV-1, and the WHO recommends the use of cleaning products containing these compounds in their laboratory biosafety guidance related to COVID-19.** There is little evidence of viral resistance against these compounds.
- There are quaternary ammonium-containing products commonly used in the scuba industry to disinfect equipment. However, these compounds are harmful to the environment, so care must be taken in their use and disposal.

Gear Disinfection

NOTE: Both appear as regulator manufacturer recommendations, but neither are currently approved by Health Canada for COVID-19.



Chemgene HLD₄L
Breathing Apparatus
Surface Disinfectant Solution¹



Steramine
Quaternary
Ammonium Tablets

¹ <https://www.apeksgiving.com/technically-inspired/blog/item/17-disinfecting-dive-equipment.html>

Gear Disinfection

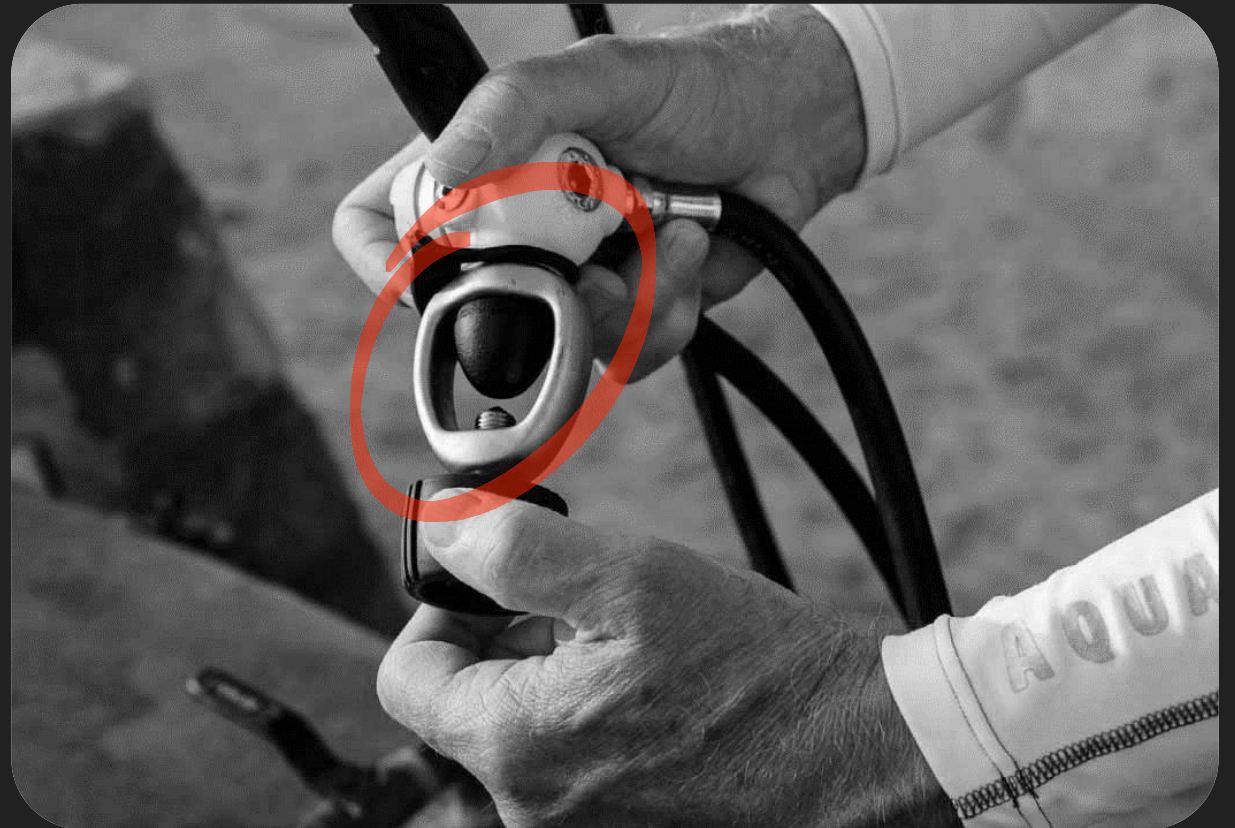
Reminder: Regulator Cleaning

First stage

- **DO NOT** submerge the first stage unless the regulator is pressurized
- **DO NOT** spray/wipe cleaner onto the first stage filter (inlet)
- Keep dust cap in place and spray/wipe the exterior of the first stage

Second stage

- **DO NOT** press the purge buttons unless the regulator is pressurized or completely dry



Dive Operators



- **Changing rooms carry a heightened risk of contamination.** Personal belongings of customers (including clothes) should be stored in such a way as to avoid contact with common surfaces. If stored in lockers, these must be sanitized after each use. To minimize the risk of contact, consider asking customers to store personal items in plastic bags.
- **Bathrooms also warrant special attention** and should be disinfected regularly. Showers could be temporarily closed, and clients encouraged to shower and rinse their gear at home.
- The CDC recommends **disinfection of all frequently touched surfaces.** In a dive shop these may include but are not limited to door handles, bathrooms, countertops, card-reading machines, fill stations, equipment workbenches, communal tools and computer keyboards and mice.

Dive Operators

- **Instruct clients not to touch the cylinder valve outlet or regulator inlet when assembling and disassembling their scuba unit.** Alternatively, consider providing divers with a pre-assembled rental set and instruct them to not disassemble the set after the dive. As long as your staff work with clean hands or gloves, this will prevent contamination of the cylinder valve outlet and first stage regulator inlet.
- **Pre-dive mask rinse buckets should not be used.** Anti-fog should be used, but **spitting in masks should be discouraged or disallowed** (especially for rental masks).



Dive Operators

Q: Is COVID-19 transmissible through water? If so, does the risk vary based on type of water, i.e. swimming pools, open fresh/ saltwater and rinse tanks? Will adding a disinfectant to the water be sufficient to inactivate the virus? What about adding regular hand soap to the rinse tank water?

A: Currently it is not known whether the new coronavirus can be transmitted in a rinse tank with communal equipment, however studies on other coronaviruses have shown that they survive well in surface water such as lakes and rivers. With this research in mind it would be prudent to assume that the virus will survive in a rinse tank and, although diluted, could remain infectious. According to the CDC the virus would be inactivated in a properly treated swimming pool, however rinsing equipment in a swimming pool is not an acceptable method of disinfection. A disinfectant solution must be used according to the manufacturer's directions, and these usually include specific dilution requirements and a statement instructing the user to thoroughly rinse the disinfected item and allow it to dry. Therefore, a disinfectant solution should be mixed and used separately from the freshwater rinse tank. Best practice in this case would be to have divers disinfect equipment before rinsing to avoid contamination of the rinse water. Hand soap is not a viable option for disinfecting.

Dive Operators

Q: Can the coronavirus survive inside the bladder of a BC?

A: It is not known if the virus will survive inside the bladder of a BC. Oral inflation of BCs may increase the risk of contaminating the inside of the bladder.

If possible, **consider taking rental BCs that have been orally inflated out of service for the predicted survival time of the virus¹**. This would reduce the risk of transmission between divers. It may also be prudent to **consider mitigation measures for the release of air from the BC (if it has been orally inflated), as the virus could theoretically be aerosolized with any water vapor that leaves the BC as you deflate it to descend.**

In terms of disinfecting the BC, the best practice may be to thoroughly disinfect the outside of the BC and avoid oral inflation after disinfection. Recommendations for disinfecting the bladder of the BC are unclear. The use of disinfectant solutions should always be followed by a rinse with fresh water to remove the active ingredient. This helps avoid inhalation or ingestion of the disinfectant and prevents the active ingredient from damaging equipment over time. It is unclear whether remnants of disinfectant solutions inside the BC bladder would affect the health of a diver through inhalation or ingestion or would cause damage to the bladder material.

¹ DAN recommends up to 9 days.

Source: Divers Alert Network, "Diving Operations and COVID-19: Prepping for Return" (Apr 9, 2021).

Dive Centres



Q: Is there a chance that the compressed air inside my cylinders could be contaminated?

A: DAN offers a lengthy explanation about the internal temperatures of scuba air compressors, and concludes “[w]e can safely assume that no live virus will enter a scuba cylinder during filling”. Viable virus **can, however, enter a cylinder if the fill whip or cylinder valve is contaminated, such as by being touched by an infected person.** For this reason, it is important to practice hand washing and disinfection of high-touch areas, including cylinders and fill stations.

Dive Operators

Q: Should I require staff and divers to use an **alcohol-based hand sanitizer** before filling cylinders or connecting their regulators or rebreathers to the cylinders?

A: The use of alcohol-based hand sanitizers is recommended only when soap and water is not available. **Alcohol-based substances should not come into contact with some equipment, including cylinders and fill whips that are used with any compressed gas but especially oxygen-enriched gas.** This would increase the risk of fire and explosion due to the high volatility of alcohol and its ability to ignite at relatively low temperatures.



Source: Divers Alert Network, "Diving Operations and COVID-19: Prepping for Return" (Apr 9, 2021).



ADJUSTING YOUR DIVE PLANNING



Adjusting Your Dive Planning

Before the Dive

- Sanitize your gear.
- Organize your equipment.
- Monitor and manage **congestion points** and **gear handling**.
- **Do not use shared rinse buckets** (for masks or other gear).
- **Spitting in masks** should be discouraged or disallowed.
- Agree with your buddy on your preferred practice around **testing and sanitizing your octopus regulator**.



Adjusting Your Dive Planning

Beginning / Ending the Dive

○ Avoid surface activities that can generate aerosols:

- Free-flows on entry
- Regulator purge button (on the surface)
- Blast-clearing a snorkel
- Mask clearing (on the surface)
- BC oral inflation





ADJUSTING YOUR SCUBA AND RESCUE SKILLS



First Aid

- DAN and the RSTC recommend evaluating consciousness by **shaking or stimulating the victim without approaching the face.**
- Determine if the victim is breathing by **simply observing chest movements.**
- When performing hands-only CPR (i.e., no rescue breathing) the Canadian Red Cross advises laying a **cloth towel or equivalent piece of clothing** over the person's mouth and nose.



First Aid

- A **BVM (Bag Valve Mask)** equipped with a **HEPA filter** for expired air is a good alternative to pocket masks or other forms of manual ventilation that require close face-to-face contact.



Teaching

Adjust your teaching plans, including (but not limited to):

○ Surface

- Sanitization while performing student gear checks / buddy checks
- Providing close supervision during entry, exit and surface manoeuvres
- Surface activities that can generate aerosols (e.g., purge button, blast clear, mask clearing, BC oral inflation, simulated free-flow)
- Surface rescue skills that involve contact

○ Under Water

- Regulator exchange drills (octopus donation, buddy breathing)
- Exchange of gear (reels)



NAUI Training Recommendations

Air Sharing Drill (Alternate Air Source)

- It should be performed on a dive **independent of other air sharing or regulator exchange skills.**
- **Sanitize the regulators to be used,** descend, execute the skill as normal. Since an alternate air source is used there is no direct concern for contamination.
 - In the event an integrated second stage/inflator is being used, then the divers should descend on their integrated air source and conduct the drill using the sanitized primary regulator as the alternative air source.
 - If your configuration utilizes a primary long hose, the recommendation is to descend on your short hose and hand off the previously disinfected long hose for the drill



NAUI Training Recommendations

Buddy Breathing

- Buddy breathing is only a required skill in leadership courses, it **should not be required of students in any other course until further notice.**
- One possible technique is to simulate by having the two candidates grip both their regulator hoses facing the regulators back to back and conduct the skill each breathing off their own regulator.
- If the course director would prefer the drill may be omitted if the candidate's skill and ability otherwise is exemplary. Omission is an option till January 1, 2021, or unless otherwise directed by the standards or additional communication from the training department.



Source: <https://blog.naui.org/naui-training-bulletin/>

NAUI Training Recommendations

Unconscious Diver Rescues and Rescue Breathing

A possible solution is to break the skill into two parts:

- 1) The rescuer should ascend with the unconscious diver, establish buoyancy, and remove equipment as is traditional. **The rescuer should retain all equipment including mask snorkel and regulator** so there is no direct concern¹.
- 2) Rescue breaths: **if available the unconscious diver should be replaced with a training-dummy** at this point. If that is not available have the divers retain mask snorkel and regulators and touch cheeks to simulate rescue breaths.



¹ Personally, **I disagree with the safety of this first recommendation:** as described, the rescuer is handling potentially-contaminated equipment from the victim's face, and (assuming an open-circuit regulator) the victim is now directly exposed to the rescuer's exhaled air. It would be safer to simulate gear removal in a way that leaves the victim's regulator in place.

NAUI Training Recommendations

First Aid and CPR Courses

- Follow social distancing recommendations
- For physical skills **have students wear face masks** when contact is required
- Rescue breathing and CPR skills should be practiced on **training dummies with new or disinfected lungs** for each student





QUESTIONS?